

III Remarks

**A. Response to the Objection to the Incorporation of
Subject Matter of International Applications into this Application**

The examiner has objected to Applicant's incorporation of subject matter into this Application by reference to Published International Patent Application Nos. WO 9629859 and WO 9858540 as improper because foreign references are not incorporable.

Applicant has amended the specification to remove the incorporation by reference to these international applications.

B. Response to the Objection to Claim 52

The examiner has objected to newly submitted claim 52 as being directed to an invention that is independent or distinct from the invention originally claimed. On the basis of that objection, the examiner withdrew claim 52 from consideration as being directed to a non-elected invention. Applicant has canceled claim 52, thereby resolving this objection.

C. Response to the Rejections Under 35 U.S.C. § 112

**1. Response to the rejection of claims 1-15, 17 and 23-26
under 35 U.S.C. § 112, first paragraph**

The examiner has rejected claims 1-15, 17 and 23-26 under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement. In support of this rejection, the examiner has stated:

... the claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention . . . Tables applicant directs us to show minor antimicrobial effects (10,000 molds/g, control compared to 1,000) when treated with specific ratio and amounts of the mix of 5 compounds, not 1, 2, 3, or 4. Further, the treatment disclosed is not to post harvest tobacco, wheat or any other plant fruit or portion — it is to the whole plant culture (p. 26). The larvae have nothing to do with the claimed method.

(Examiner's Action, page 3)

Applicant's claims are now directed to a method of protecting tobacco from microbial attack, comprising the step of applying to the surface of the tobacco a narrowly defined antimicrobial composition. Support for these claims is found in part in **TABLE 2: Tobacco**, found on page 28 of the specification and reproduced below for convenient reference:

Table 2: Tobacco

	50% solution in	Spraying agent	Molds Section 35 LMBG (German Food and Consumer Goods Act) (S.A.)	Parasite larvae (S.A.)
T-0		blank, untreated	$6 \times 10^4/\text{g}$	populated 6 months after harvest
T-1	water	0.001 mg/g	$5 \times 10^4/\text{g}$	no growth
T-2	water	0.01 mg/g	$1 \times 10^4/\text{g}$	no growth
T-3	water	0.1 mg/g	$8 \times 10^3/\text{g}$	no growth
T-4	water	1 mg/g	$4 \times 10^2/\text{g}$	no growth
T-5	water	10 mg/g	$6 \times 10^1/\text{g}$	no growth
T-6	water	100 mg/g	$< 10/\text{g}$	no growth
T-7	solvent*	0.001 mg/g	$6 \times 10^4/\text{g}$	no growth
T-8	solvent*	0.01 mg/g	$8 \times 10^3/\text{g}$	no growth
T-9	solvent*	0.1 mg/g	$2 \times 10^3/\text{g}$	no growth
T-10	solvent*	1 mg/g	$4 \times 10^2/\text{g}$	no growth
T-11	solvent*	10 mg/g	$6 \times 10^1/\text{g}$	no growth
T-12	solvent*	100 mg/g	$4 \times 10^1/\text{g}$	no growth

* here: rapeseed oil

The results in **TABLE 2: Tobacco** show increasing improvement in antimicrobial effects by the spraying on tobacco of increasing concentrations of the antimicrobial composition. For example, compared with the control example in which the molds had a concentration of 6×10^4 (i.e., 60,000) per gram, a tobacco plant sprayed with Applicant's antimicrobial composition of 100 mg/g resulted in a reduction of the concentration of molds to less than 10 per gram. This improvement constitutes a reduction of over 6,000 times the concentration of mold on the tobacco plant. Applicant agrees that lower concentrations of Applicant's claimed composition produce lesser antimicrobial effect in terms of reduction in concentration of mold. However, **TABLE 2** clearly conveys to one skilled in the relevant art how to obtain very significant reductions in mold using Applicant's composition.

Applicant acknowledges that the composition used in the **EXAMPLE** contained five components. The composition comes within the antimicrobial composition identified on page 11, lines 13–19, which represents a preferred embodiment. Applicant also discloses that a lesser number of components can be used to achieve the beneficial result in terms of reducing concentrations of mold in tobacco. See, for example, page 3, lines 8–15.

Accordingly, for the reasons set forth above, the claimed subject matter is described in the specification so as to reasonably convey to one skilled in the relevant art that the inventors at the time the Application was filed had possession of the claimed invention. For that reason, the rejection of claims 1–15, 17 and 23–26 under 35 U.S.C. § 112, second paragraph, should be withdrawn.

2. Response to the rejection of claims 2 and 12
under 35 U.S.C. § 112, second paragraph

The examiner has rejected claims 2 and 12 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. The examiner characterizes claims 2 and 12 as identical. Claim 12 has been amended to overcome this rejection. Support for the amendment to claim 12 relating to the addition to the composition of rapeseed is provided in the Application at page 20, lines 15–23.

D. Response to the Rejection of Claims 1–15, 17 and 23–26
as being Unpatentable over Schür WO 96/29895,
in View of McCardle 5747416, Beilfuss et al. CA 2012288,
Bessette et al. WO 98/54971, and Stevenson 5091405

The examiner has also rejected claims 1–15, 17 and 23–26 under 35 U.S.C. § 103(a) as being unpatentable over published International Patent Application WO 96/29895 to Schür, in view of United States Patent No. 5,747,416 to McCardle, Canadian Patent Publication No. 2012288 to Beilfuss et al., Published International Patent Application No. WO 98/54971 to Bessette et al. and United States Patent No. 5,091,405 to Stevenson. None of these publications discloses Applicant's claimed method for protecting tobacco from microbial attack comprising the step of applying to the surface of the tobacco Applicant's narrowly defined antimicrobial composition.

For the convenience of the reader, Applicant responds to the rejection of claims 1–15, 17 and 23–26 below, setting forth the examiner's characterization of each reference as an indented quotation, followed by Applicant's response concerning that particular reference as a basis for the rejection. (Applicant notes that several typographical errors have been corrected in the passages quoted below to avoid confusion.)

Schür Published International Patent Application WO 96/29895

Schür provides Gras compounds in antimicrobial compositions to post harvest plant portions inclusive of wheat; bread; (p. 11 line 19). Schür shows the equivalence of benzyl alcohol, phenylethyl alcohol, propylene glycol, m-butylalcohol and isobutyl alcohol (p. 7).

One or more of these compounds are used in the antimicrobial compositions. Also used are phenols, thymol, safrole (p. 8) and tannic acid; equivalent to tanin (p. 8, 44), and/or, equivalently lactic acid. Less than 50% benzyl alcohol can be utilized with only 1 other of the compounds, or more if desired, to attain a microbiocidal effect.

Rapeseed oil is not discussed.

(Examiner's Action, paragraph 5, p. 3 to paragraphs 1-2, p. 4.).

The Schür et al. Published International Patent Application does not disclose, exemplify or otherwise suggest to one skilled in the art Applicant's claimed method for protecting tobacco after harvest from microbial attack comprising the step of applying Applicant's composition to the surface of the tobacco. The Schür et al. Published International Patent Application is completely silent about using the Schür compositions to protect tobacco.

United States Patent No. 5,747,416 to McCardle

McCardle shows sprayable compositions for plant treatment inclusive of antimicrobial agents, with adjuvants (col. 3, lines 5-28). Acidulants are shown to be equivalently tannic or lactic acid (col. 7, lines 8-11); mixtures are also taught. Solvent systems include water and propylene glycol (col. 7, lines 28-33).

(Examiner's Action, paragraph 3, p. 4).

The McCardle patent is directed to a protein polysaccharide complex used as a non-toxic and sustained release carrier for insecticides, herbicides, foliar nutrients and mixtures thereof. The McCardle patent also discloses methods for using a solution, solid or flowable impregnated protein-polysaccharide complex as a delivery agent for the control of plant populations and insect populations and as a preservative for cut flowers. See Abstract and Summary of the Invention at column 3, lines 3-50 and column 12, lines 2-3. The McCardle patent does not disclose, exemplify or even suggest to one skilled in the art Applicant's claimed method for protecting harvested tobacco from microbial attack comprising the step of applying Applicant's narrowly defined antimicrobial composition to the surface of the tobacco. Indeed, there is no disclosure or suggestion of using the compositions comprising

a protein polysaccharide complex disclosed in the McCardle patent on tobacco. Moreover, Applicant's claimed compositions do not comprise McCardle's protein polysaccharide complex. Accordingly, the McCardle patent cannot be used in combination with the Schür published International Patent Application to obtain Applicant's claimed method.

Canadian Patent Publication CA 2012288 to Beilfuss et al.

Beilfuss shows aqueous sprayable compositions for plant treatment inclusive of antimicrobial agents, with adjuvants (p. 4). Phenolics are 1–80%, no polyphenols are seen. Alcohols are equivalents or mixes, of phenylethanol or benzyl alcohol. Antimicrobial efficacy is disclosed (p. 11, p. 12).

(Examiner's Action, paragraph 4, p. 4):

The Beilfuss et al. Canadian Patent Publication is directed to a mixture for use as a plant hygiene disinfectant. As disclosed in the Abstract, the mixture consists of:

- A) a naturally occurring phenol compound selected from the group tymol, guaiacol, eugenol, carvacrol, salicylic acid or its salts, methyl salicylate, p-cumaric acid, caffeic acid, ferulic acid, sinapic acid, sinapic alcohol or mixtures thereof in an amount from 1 to 80% by weight, and
- B) an aromatic alcohol selected from the group phenoxyethanol, phenethyl alcohol, benzyl alcohol, 2-phenoxypropan-1-ol, 1-phenoxypropan-2-ol, 3-phenoxypropan-1-ol, cinnamic alcohol, 2-phenylcyclohexanol or mixtures thereof in an amount from 20 to 99% by weight, in conjunction with
- C) wetting

The Beilfuss et al. Canadian Patent Publication does not disclose Applicant's claimed method of protecting tobacco by applying to the surface of the tobacco a narrowly defined antimicrobial composition. Indeed, the Beilfuss et al. Canadian Patent Publication does not even contain an exemplification, disclosure or suggestion to one skilled in the art of using the Beilfuss et al. composition on tobacco.

Published International Patent Application WO 98/54971 to Bessette et al.

Bessette (p. 15) also shows mixes of phenol compounds with phenyl and phenylethyl alcohols (3c) applicable to plants in aqueous or vegetable oil solvents (p. 19).

(Examiner's Action, paragraph 5, p. 4).

The Bessette et al. Published International Patent Application is directed to a pesticide and a method of using the pesticide to kill invertebrates, especially insects,

arachnids and larvae. The Bessette method includes preparing a mixture of a carrier with an affector agent, which interferes with the neurotransmitters of the octopaminereceptor sites in the insects, arachnids and larvae, and applying the mixture to insects, arachnids, larvae and their habitat. In the EXAMPLES Section, the preferred blend of affector agent is alpha-terpineol, eugenol and cinnamic alcohol. The carrier is acetone. The Bessette et al. Published International Patent Application does not disclose Applicant's claimed method of preserving tobacco from microbial attack. The Bessette et al. application also does not disclose Applicant's claimed method of applying to the surface of tobacco Applicant's narrowly defined antimicrobial composition. Accordingly, the Bessette et al. application cannot be combined with the Schnür, McCardle and Beilfuss references to obtain Applicant's claimed method for use in preserving tobacco post harvest.

United States Patent No. 5,091,405 to Stevenson

Stevenson shows crop oils as equivalently castor oil, rapeseed oil, soybean oil (col. 54) when applied to crops in compositions with other microbials, diluents as sprays (col. 56).

(Examiner's Action, paragraph 6, p. 4).

The Stevenson patent is directed to pyrazolines and their intermediates, including all geometric and stereo-isomers of the pyrazolines and intermediates, agricultural compositions containing the pyrazolines and methods for use as insecticides. The Stevenson patent does not disclose, exemplify or even suggest to one skilled in the art a method for protecting harvested tobacco from microbial attack comprising the step of applying Applicant's antimicrobial composition to the surface of the tobacco. As Applicant's antimicrobial composition consists essentially of certain ingredients that do not include pyrazolines and their intermediates and pyrazolines and their intermediates are an essential component of the Stevenson composition, Stevenson's composition, in fact, teaches away from Applicant's composition. As the Stevenson patent, like the other references cited in support of the rejection does not disclose Applicant's claimed method for protecting harvested tobacco from microbial attack comprising the step of applying Applicant's narrowly defined antimicrobial composition to the surface of the tobacco, a rejection of Applicant's claims 1-15, 17 and 23-26 under 35 U.S.C. § 103(a) as being unpatentable over the Published International Patent Application to Schür in view of United States Patent No. 5,747,416 to McCardle, Canadian Patent Publication CA 2012288 to Beilfuss et al.,

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Published International Patent Application No. WO 98/54971 to Bessette et al. and United States Patent No. 5,091,405 to Stevenson is untenable and should be withdrawn.

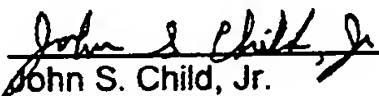
IV CONCLUSION

It is believed that the above constitutes a complete response under 37 C.F.R. Section 1.111 and that all bases of rejection stated in the Official Action have been adequately rebutted and/or overcome. Accordingly, a Notice of Allowance of United States Patent Application Serial No. 10/069,476 is requested as the next Office Action. The Examiner is requested to telephone the undersigned attorney if any matters that can reasonably be expected to be resolved in a telephone interview are believed to impede the allowance of the pending claims.

Respectfully submitted,

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